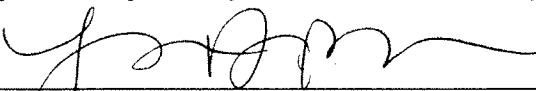


PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

I hereby certify that this correspondence is being electronically filed with the United States Patent and Trademark Office on August 14, 2008 at or before 11:59 p.m. Pacific Time under the Rules of 37 CFR § 1.8.



Signature

Appl No. : 10/718,478 Confirmation No. 8448
Applicant : Kim, Jin-Sung
Filed : November 18, 2003
Title : ELECTROLYTE FOR LITHIUM SECONDARY BATTERY AND
LITHIUM SECONDARY BATTERY COMPRISING SAME

TC/A.U. : 1795
Examiner : Robert W. Hodge

Docket No. : 51545/P849
Customer No. : 23363

PRE-APPEAL REQUEST FOR REVIEW

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Post Office Box 7068
Pasadena, CA 91109-7068
August 14, 2008

Commissioner:

Applicant requests review of the continued rejection of claims 1-4, 8, 10, 11, 13, 15 and 17 in the above-identified application. No amendments are being filed with this Request. This Request is being filed with a Notice of Appeal. The review is requested for the reasons stated below.

The examiner has maintained the rejection of claims 1-4, 8, 10, 11, 13, 15 and 17 under 35 U.S.C. §102(b) as allegedly anticipated by Hamamoto, et al. (JP 11-329494). In maintaining this rejection, the examiner argues that Hamamoto "completely overlaps the instantly claimed ranges and shares a same exact end point," and that Hamamoto therefore discloses the claimed ranges with sufficient specificity to be anticipatory. Applicant respectfully disagrees.

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To be anticipatory of the claimed ranges, Hamamoto must disclose the recited ranges with "sufficient specificity" to constitute an anticipation under the statute. See MPEP §2131.03 (II). Here, Hamamoto discloses very broad ranges encompassing numerous values far exceeding those covered by the ranges recited in the present claims. In particular, as noted in applicant's previous responses, Hamamoto discloses the presence of a vinyl sulfone derivative in an electrolytic solution in an amount ranging from 0.1 to 10 wt% or from 0.01 to 20 wt%. See paragraphs 0013 and 0014. Hamamoto discloses no additional ranges of amounts of the vinyl sulfone derivative and does not disclose ranges similar to the 0.05 to 0.5 wt% range of vinyl sulfone or the 0.1 to 5 wt% range of a sulfone based organic compound recited in the present claims. That Hamamoto may completely encompass one of the recited ranges does not constitute a disclosure with sufficient specificity to be anticipatory. See *Atofina v. Great Lakes Chem. Corp.*, 78 U.S.P.Q.2d 1417, 1423 (Fed. Cir. 2006). In *Atofina*, the prior art reference discloses a broad temperature range of 100 to 500°C, but failed to disclose the claimed 330-450°C range with sufficient specificity to be anticipatory, even though the disclosed range completely encompassed the claimed range. *Id.*

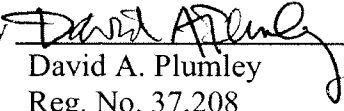
The present case is directly analogous to *Atofina v. Great Lakes Chemical Corp.* 78 U.S.P.Q.2d 1417 (Fed. Cir. 2006), cited above and in applicant's previous responses. As seen from *Atofina*, although a range taught by the prior art reference may encompass part, or even all of the recited range, the recited range is not anticipated if the prior art reference fails to disclose the recited range with "sufficient specificity." Here, as in *Atofina*, although Hamamoto discloses a range that may overlap a small portion of the recited range, Hamamoto fails to disclose the recited range with "sufficient specificity" to be anticipatory. In particular, although Hamamoto discloses broad ranges of 0.1 to 10 wt% or from 0.01 to 20 wt%, Hamamoto fails to describe the recited 0.05 to 0.5 wt% range of vinyl sulfone recited in independent claims 1 and 11 or the 0.1 to 5 wt% range of the sulfone based organic compound recited in independent claim 15 with sufficient specificity to be anticipatory. Therefore, independent claims 1, 11 and 15 are not anticipated by Hamamoto.

In addition, as noted in applicant's previous responses, independent claims 1, 11 and 15 are not obvious over Hamamoto because the use of vinyl sulfone or the sulfone based organic compound in amounts within the claimed ranges exhibits unexpected and desirable results. As noted in the present specification, at page 6, lines 3-10, the effect of inhibiting the generation of gas inside a battery is not likely when the sulfone based organic compound is used in an amount of less than 0.1 wt%, and initial charge and discharge efficiencies and cycle life performance of the battery are decreased in accordance with the increase in the amount of compound used when the sulfone based organic compound is used in an amount exceeding 10 wt%. In addition, the specification at page 7, lines 15-23 notes that when the vinyl sulfone is used in an amount between 0.05 and 0.5 wt%, initial capacity, discharge capacity at low temperature, high rate cycle life characteristics, and swelling inhibition properties are improved. Further, as shown in Fig. 2 and disclosed at page 12, lines 8-16, rates of increase in the thicknesses of the batteries after charging are lower when the content of vinyl sulfone is in the range of 0.1 to 5 wt%, and the rate of increase in thickness is much greater when the vinyl sulfone content is greater than 5 wt% (see Fig. 2 showing a much greater thickness variation ratio for the battery including vinyl sulfone in an amount of 10 wt%). Additionally, as shown in Fig. 3 and disclosed at page 12, lines 17-26, greater improvements in initial capacity and low temperature characteristics are achieved when the content of vinyl sulfone is in the range of 0.1 to 5 wt% compared to when the vinyl sulfone content is outside that range. Also, as shown in Fig. 4 and disclosed at page 12, line 27 to page 13, line 2, greater improvements in high rate cycle life characteristics are achieved when the vinyl sulfone is used in a range of 0.1 to 0.5 wt% compared to when the vinyl sulfone is used in amounts outside that range. Given these unexpected and desirable results with respect to the ranged disclosed in Hamamoto, independent claims 1, 11 and 15 are not obvious over Hamamoto.

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In view of the above, applicant submits that all of pending claims 1-4, 8, 10, 11, 13, 15 and 17 are allowable over Hamamoto. Applicant therefore respectfully requests reconsideration of the final rejection of the pending claims.

Respectfully submitted,
CHRISTIE, PARKER & HALE, LLP

By 
David A. Plumley
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626/795-9900

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